10

15

- 18. The aircraft of claim 2 wherein
  the engine assembly of the primary lifting
  mechanism comprises a single engine and the
  engine assembly of the secondary lifting
  mechanism comprises a single engine.
- 19. The aircraft of claim 2 wherein the engine assembly of the primary lifting mechanism comprises a plurality of engines and the engine assembly of the secondary lifting mechanism comprises a single engine.
- 20. The aircraft of claim 2 wherein the engine assembly of the primary lifting mechanism comprises a single engine and the engine assembly of the secondary lifting mechanism comprises a plurality of engines.
- 21. The aircraft of claim 2 wherein
  the engine assembly of the primary lifting
  mechanism comprises a plurality of engines and the
  engine assembly of the secondary lifting
  mechanism comprises a plurality of engines.
  - 22. The aircraft of claim 4 wherein the engine assembly of the primary lifting mechanism comprises a single engine.

- 23. The aircraft of claim 4 wherein the engine assembly of the primary lifting mechanism comprises a plurality of engines.
- 24. The aircraft of claim 7 whereinthe engine assembly of the primary lifting mechanism comprises a single engine.
  - 25. The aircraft of claim 7 wherein the engine assembly of the primary lifting mechanism comprises a plurality of engines.
- 10 26. The aircraft of claim 16 wherein the engine assembly of the primary lifting mechanism comprises a single engine.
- 27. The aircraft of claim 16 whereinthe engine assembly of the primary liftingmechanism comprises a plurality of engines.
  - 28. The aircraft of claim 17 wherein the engine assembly of the secondary lifting mechanism comprises a single engine.
- 29. The aircraft of claim 17 wherein20 the engine assembly of the secondary lifting mechanism comprises a plurality of engines.

10

- 30. The aircraft of any one of claims 1 to 29 wherein the primary lifting mechanism is connected to the main body by the primary tilt enabling joint such that the primary lifting mechanism can be positioned above the main body of the aircraft by means of the primary tilt enabling joint during flight of the aircraft.
- 31. The aircraft of any one of claims 1 to 29 wherein the primary lifting mechanism is connected to the main body by the primary tilt enabling joint such that the primary lifting mechanism can be positioned in front of the main body of the aircraft by means of the primary tilt enabling joint during flight of the aircraft.
- 32. The aircraft of any one of claims 1 to 29 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that a part the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 33. The aircraft of any one of claims 1 to 29 wherein
  the secondary lifting mechanism is connected to the main
  body by the secondary tilt enabling joint such that the
  secondary lifting mechanism can be positioned behind the
  main body of the aircraft by means of the secondary tilt
  enabling joint during flight of the aircraft.

10

- 34. The aircraft of claim 30 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 35. The aircraft of claim 31 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 36. The aircraft of claim 30 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that part of the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 37. The aircraft of claim 31 wherein
  the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that part of the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.

- 38. The aircraft of any one of claims 1 to 29 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that part of the secondary lifting mechanism can be positioned above the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 39. The aircraft of claim 30 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the secondary lifting mechanism can be positioned above the aft end of the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 40. The aircraft of claim 31 wherein the secondary
  lifting mechanism is connected to the main body by
  the secondary tilt enabling joint such that the
  secondary lifting mechanism can be positioned above
  the aft end of the main body of the aircraft by means of the
  secondary tilt enabling joint during flight of the aircraft.
- 41. The aircraft of any one of claims 1 to 29

  wherein the primary tilt enabling joint is connected to the main body by a tilt enabling joint, which said tilt enabling joint that connects the primary tilt enabling joint to the main body is a third tilt enabling joint,

and which said third tilt enabling joint is such that the primary tilt enabling joint can be tilted in a plurality of directions and angles relative to the main body of the aircraft, in a controlled manner, by means of the third tilt enabling joint without components of the primary tilt enabling joint having to move with respect to one another.

42. The aircraft of any one of claims 1 to 29 wherein the primary tilt enabling joint has a movement enabling assembly that enables the primary tilt enabling joint to move and a tilt activating mechanism that can cause and control the movement of the primary tilt enabling joint, and the secondary tilt enabling joint has a movement enabling assembly that allows the secondary tilt enabling joint to move and a tilt activating mechanism that causes and controls the movement of the secondary tilt enabling joint to occur, which movement enabling assembly of the secondary tilt enabling joint is a secondary movement enabling assembly, and which said tilt activating mechanism of the secondary tilt enabling joint is a secondary tilt activating mechanism.

- 43. The aircraft of claim 42 wherein the primary tilt enabling joint is connected to the main body by a tilt enabling joint, which said tilt enabling joint that connects the primary tilt 5 enabling joint to the main body is a third tilt enabling joint, and which said third tilt enabling joint is such that the primary tilt enabling joint can be tilted in a plurality of directions and angles relative to the main body of the aircraft, in a controlled manner, without components of the primary tilt enabling joint having to move with respect to one another. and which third tilt enabling joint has a movement enabling assembly that enables the third tilt enabling joint to move and a tilt activating mechanism that can cause and control the movement of the third tilt enabling joint.
- 44. The aircraft of claim of 42 wherein the movement enabling assembly of the primary tilt 20 enabling joint is a universal joint and the tilt activating mechanism of the primary tilt enabling joint comprises as plurality of hydraulic actuators connected to the universal joint of the primary tilt enabling joint and the 25 movement enabling assembly of the secondary tilt

10

enabling joint is a universal joint, with the tilt activating mechanism of the secondary tilt enabling joint comprising a plurality of hydraulic actuators connected to the universal joint of the secondary tilt enabling joint.

- 45. The aircraft of any one of claims 1 to 29 wherein the secondary lifting mechanism is connected to the the secondary tilt enabling joint by a rotating mechanism such that during flight of the aircraft the secondary lifting mechanism can be rotated in a controlled manner relative to the secondary tilt enabling joint by means of the rotating mechanism.
- 46. The aircraft of any one of claims 1 to 29 wherein the secondary tilt enabling joint is connected to the main body of the aircraft by a rotating mechanism such that during flight of the aircraft the secondary tilt enabling joint can be rotated relative to the main body of the aircraft in a controlled manner by means of the rotating mechanism.

- 47. The aircraft of claim 46 wherein the primary tilt enabling joint has a movement enabling assembly that enables the primary tilt enabling joint to move and a tilt activating 5 mechanism that can cause and control the movement of the primary tilt enabling joint, and the secondary tilt enabling joint has a movement enabling assembly that allows the secondary tilt enabling joint to move and a tilt activating mechanism that causes and 10 controls the movement of the secondary tilt enabling joint to occur, which movement enabling assembly of the secondary tilt enabling joint is a secondary movement enabling assembly, and which said tilt activating mechanism of the secondary tilt enabling 15 joint is a secondary tilt activating mechanism.
- 48. The aircraft of claim of 47 wherein the
  movement enabling assembly of the primary tilt
  enabling joint is a universal joint and the tilt
  activating mechanism of the primary tilt enabling
  joint comprises as plurality of hydraulic actuators
  connected to the universal joint of the primary
  tilt enabling joint, and the movement enabling
  assembly of the secondary tilt enabling joint is
  a universal joint, with the tilt activating
  mechanism of the secondary tilt enabling joint

comprising a plurality of hydraulic actuators connected to the universal joint of the secondary tilt enabling joint.

- 49. The aircraft of claim 47 wherein the primary 5 tilt enabling joint is connected to the main body by a tilt enabling joint, which said tilt enabling joint that connects the primary tilt enabling joint to the main body is a third tilt enabling joint, and which said third tilt 10 enabling joint is such that the primary tilt enabling joint can be tilted in a plurality of directions and angles relative to the main body of the aircraft, in a controlled manner, without components of the primary tilt enabling joint 15 having to move with respect to one another, and which third tilt enabling joint has a movement enabling assembly that enables the third tilt enabling joint to move and a tilt activating mechanism that can cause and control 20 the movement of the third tilt enabling joint.
  - 50. The aircraft of claim 48 wherein a fin is connected to the secondary lifting mechanism such that the fin protrudes outward from the secondary lifting mechanism.
  - 51. The aircraft of claim 36
    wherein the primary tilt enabling joint has a
    movement enabling assembly that enables the primary

10

15

20

tilt enabling joint to move and a tilt activating mechanism that can cause and control the movement of the primary tilt enabling joint, and the secondary tilt enabling joint has a movement enabling assembly that allows the secondary tilt enabling joint to move and a tilt activating mechanism that causes and controls the movement of the secondary tilt enabling joint to occur, which movement enabling assembly of the secondary tilt enabling joint is a secondary movement enabling assembly, and which said tilt activating mechanism of the secondary tilt enabling joint is a secondary tilt activating mechanism, and which primary tilt enabling joint is connected to the main body by a tilt enabling joint, which said tilt enabling joint that connects the primary tilt enabling joint to the main body is a third tilt enabling joint, and which said third tilt enabling joint is such that the primary tilt enabling joint can be tilted in a plurality of directions and angles, in a controlled manner, and wherein the third tilt enabling joint has a movement enabling assembly that enables the third tilt enabling joint to move and a tilt activating mechanism that can cause and control the movement of the third tilt enabling joint.

- 52. The aircraft of claim 51 wherein the secondary tilt enabling joint is connected to the main body of the aircraft by a rotating mechanism such that during flight of the aircraft the secondary tilt enabling joint can be rotated relative to the main body of the aircraft in a controlled manner by means of the rotating mechanism.
- 53. The aircraft of claim of 42 wherein the movement enabling assembly of the primary tilt 10 enabling joint is a plurality of hinges transversely connected to one another and the tilt activating mechanism of the primary tilt enabling joint comprises as plurality of hydraulic actuators connected to the movement enabling assembly of 15 the primary tilt enabling joint, and the movement enabling assembly of the secondary tilt enabling joint is a universal joint, with the tilt activating mechanism of the secondary tilt enabling 20 joint comprising a plurality of hydraulic actuators connected to the universal joint of the secondary tilt enabling joint.

- 54. The aircraft of claim of 42 wherein the movement enabling assembly of the primary tilt enabling joint is a plurality of hinges transversely connected to one another and the tilt 5 activating mechanism of the primary tilt enabling joint comprises as plurality of hydraulic actuators connected to the movement enabling assembly of the primary tilt enabling joint, and the movement enabling assembly of the secondary tilt 10 enabling joint is a plurality of hinges transversely connected to one another with the tilt activating mechanism of the secondary tilt enabling joint comprising a plurality of hydraulic actuators connected to the movement enabling assembly of 15 the secondary tilt enabling joint.
- 55. The aircraft of claim of 42 wherein the
  movement enabling assembly of the primary tilt
  enabling joint is a universal joint and the tilt
  activating mechanism of the primary tilt enabling
  joint comprises as plurality of hydraulic actuators
  connected to the universal joint of the primary
  tilt enabling joint and the movement enabling
  assembly of the secondary tilt enabling joint is a
  plurality of hinges transversely connected to one
  another with the tilt activating mechanism of the

secondary tilt enabling joint comprising a plurality of hydraulic actuators connected to the movement enabling assembly of the secondary tilt enabling joint.

- 56. The aircraft of any one of claims 1 to 29 wherein the primary 5 lifting mechanism is connected to the main body of the aircraft by means of the primary tilt enabling joint such that the primary lifting mechanism can be tilted in a forward direction and a rearward direction relative to the main body of the aircraft, in a controlled manner, by means 10 of the primary tilt enabling joint and the secondary lifting mechanism is connected to the main body of the aircraft by means of the secondary tilt enabling joint such that the secondary lifting mechanism can be tilted in a forward and rearward 15 direction relative to the main body of the aircraft, in a controlled manner, by means of the secondary tilt enabling joint.
  - 57. The aircraft of claim 36 wherein the primary lifting mechanism is connected to the main body of the aircraft by means of the primary tilt enabling joint such that the primary lifting mechanism can be tilted in a forward direction and a rearward direction relative

to the main body of the aircraft, in a controlled manner, by means of the primary tilt enabling joint, and the secondary lifting mechanism is connected to the main body of the aircraft by means of the secondary tilt enabling joint such that the secondary lifting mechanism can be tilted in a forward and rearward direction relative to the main body of the aircraft, in a controlled manner, by means of the secondary tilt enabling joint.

- 10 58. The aircraft of claim 57 wherein the primary tilt
  enabling joint comprises a plurality of movement
  enabling assemblies that enable the primary tilt
  enabling joint to have a tilt motion and a plurality
  of tilt activating mechanisms that can cause and
  15 control the movement of the primary tilt enabling
  joint, and the secondary tilt enabling joint
  comprises a plurality of movement enabling assemblies
  that allow the secondary tilt enabling joint to move
  and a plurality of tilt activating mechanism that
  20 can cause and control the movement of the secondary
  tilt enabling joint.
  - 59. The aircraft of any one of claims 1 to 29 wherein the primary lifting mechanism is connected to

10

15

the main body by the primary tilt enabling joint such that the whole of the primary lifting mechanism can be placed in position that is in front of and above the main body of the aircraft by means of the primary tilt enabling joint during flight of the aircraft.

- 60. The aircraft of any one of claims 1 to 29 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the whole of the secondary lifting mechanism can be placed in a position that is above and behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 61. The aircraft of claim 59 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the whole of the secondary lifting mechanism can be placed in a position that is above and behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 62. The aircraft of any one of claims 1 to 29 wherein the primary lifting mechanism is connected to the main body by the primary tilt enabling joint such that a part of the primary lifting mechanism can be positioned in front of the main body of the aircraft by means of the primary tilt enabling joint during flight of the aircraft.

10

- 63. The aircraft of claim 62 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 64. The aircraft of claim 62 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that part of the secondary lifting mechanism can be positioned behind the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 65. The aircraft of claim 62 wherein the secondary lifting mechanism is connected to the main body by the secondary tilt enabling joint such that the secondary lifting mechanism can be positioned above the aft end of the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 66. The aircraft of claim 59 wherein by means of the primary tilt enabling joint the primary lifting mechanism can be placed in a position such that only a of part of the primary lifting mechanism is in front of the main body of the aircraft by means of the primary tilt enabling joint during flight of the aircraft.

- 67. The aircraft of claim 60 wherein by means of the secondary tilt enabling joint the secondary lifting mechansim can be placed in a position such that only a part of the secondary lifting mechanism is in behind of the main body of the aircraft by means of the secondary tilt enabling joint during flight of the aircraft.
- 68. The aircraft of claim 46 wherein the secondary
  lifting mechanism is connected to the main body by the secondary
  tilt enabling joint such that the whole of the secondary
  lifting mechanism can be placed in a position that is
  above and behind the main body of the aircraft by means of
  the secondary tilt enabling joint during flight of the aircraft.
  - 69. The aircraft of claim 68 wherein by means of the secondary tilt enabling joint the secondary lifting mechansim can be placed in a position such that no part of the secondary lifting mechanism is in behind of the main body of the aircraft.
- 70. The aircraft of claim 69 wherein
  the primary lifting mechanism is connected to
  the main body by the primary tilt enabling joint
  such that by means of the primary tilt enabling joint
  the whole of the primary lifting mechanism can be placed in
  position that is in front of and above the main body of the
  aircraft during flight of the aircraft.

- 71. The aircraft of claim 70 wherein by means of the primary tilt enabling joint the primary lifting mechanism can be placed in a position such that only a of part of the primary lifting mechanism is in front of the main body of the aircraft.
- The aircraft of claim 71 wherein the primary 72. lifting mechanism is connected to the main body of the aircraft by means of the primary tilt enabling joint such that the primary lifting mechanism can be tilted in a forward direction and a rearward direction relative to the 10 main body of the aircraft, in a controlled manner, by means of the primary tilt enabling joint and the secondary lifting mechanism is connected to the main body of the aircraft by means of the secondary tilt enabling joint such that the secondary lifting 15 mechanism can be tilted in a forward and rearward direction relative to the main body of the aircraft, in a controlled manner, by means of the secondary tilt enabling joint.
- 73. The aircraft of claim 72 wherein a fin is connectedto the secondary lifting mechanism such that thefin protrudes outward from the secondary lifting mechanism.

73. The aircraft of claim 45 wherein the secondary tilt enabling joint is such that the secondary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in 5 lateral directions with respect to the main body of the aircraft by means of the secondary tilt enabling joint.

74

73. The aircraft of claim 46 wherein the secondary tilt enabling joint is such that the secondary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in lateral directions with respect to the main body of the aircraft by means of the secondary tilt enabling joint.

75

10

15

20

73. The aircraft of claim 52 wherein the secondary tilt enabling joint is such that the secondary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in lateral directions with respect to the main body of the aircraft by means of the secondary tilt enabling joint.

76

the secondary lifting mechanism is connected to the secondary tilt enabling joint by a rotating mechanism such that during flight of the aircraft the secondary lifting mechanism can be rotated in a controlled manner relative to

74. The aircraft of any one of claims 1 to 29 whereigh

the secondary till enabling joint by means of the rotating

mechanism,

and the primary lifting mechanism and the secondary lifting mechanism are connected to the main body of the aircraft such that the primary lifting mechanism is further forward with respect to the main body of the aircraft than is the position of the secondary lifting mechanism with respect to the main body of the aircraft.

77

5

10

15

75. The aircraft of claim 74 wherein
the secondary tilt enabling joint is such that the secondary
lifting mechanism is able to be tilted in a forward direction,
a rearward direction, and in lateral directions with respect
to the main body of the aircraft by means of the secondary

78

tilt enabling joint.

76. The aircraft of claim 41 wherein the primary tilt enabling joint is such that the primary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in lateral directions with respect to the main body of the aircraft by means of the primary tilt enabling joint.

79

20 77. The aircraft of claim 43 wherein the primary tilt enabling joint is such that the primary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in lateral directions with respect to the main body of the aircraft by means of the primary tilt enabling joint,

and the primary tilt enabling joint is
connected to the main body by an additional tilt enabling
joint, which said additional tilt enabling joint that connects
the primary tilt enabling joint to the main body is a third
tilt enabling joint, and which said third tilt enabling joint
is such that the primary tilt enabling joint can be tilted in
a plurality of directions and angles relative to the main
body of the aircraft, in a controlled manner, and which third
tilt enabling joint has a movement enabling assembly that
enables the third tilt enabling joint to move and a tilt
activating mechanism that can cause and control the movement
of the third tilt enabling joint.

80

5

- 78. The aircraft of claim 45 wherein
- the primary tilt enabling joint is such that the primary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in lateral directions with respect to the main body of the aircraft by means of the primary tilt enabling joint,
- and the primary tilt enabling joint is

  connected to the main body by a tilt enabling

  joint, which said tilt enabling joint that connects

  the primary tilt enabling joint to the main body is a third

  tilt enabling joint, and which said third tilt enabling joint

is such that the primary tilt enabling joint can be tilted in a plurality of directions and angles relative to the main body of the aircraft, in a controlled manner, and which third tilt enabling joint has a movement enabling assembly that enables the third tilt enabling joint to move and a tilt activating mechanism that can cause and control the movement of the third tilt enabling joint,

and the secondary tilt enabling joint is such that the secondary lifting mechanism is able to be tilted in a forward direction, a rearward direction, and in lateral directions with respect to the main body of the aircraft by means of the secondary tilt enabling joint.

Q1

5

10

15

79. The aircraft of claim 46 wherein
the primary tilt enabling joint is such that the primary
lifting mechanism is able to be tilted in a forward direction,
a rearward direction, and in lateral directions with respect
to the main body of the aircraft by means of the primary tilt
enabling joint,

and the primary

tilt enabling joint is connected to the main body by an tilt enabling joint, which said tilt enabling joint that connects the primary tilt enabling joint to the main body is a third tilt enabling joint, and which said third tilt enabling joint is such that the primary tilt

10

15

enabling joint can be tilted in a plurality of directions and angles relative to the main body of the aircraft, in a controlled manner, and which third tilt enabling joint has a movement enabling assembly that enables the third tilt enabling joint to move and a tilt activating mechanism that can cause and control the movement of the third tilt enabling joint,

and the secondary tilt enabling joint is such that
the secondary lifting mechanism is able to be tilted
in a forward direction, a rearward direction, and in
lateral directions with respect to the main body of the
aircraft by means of the secondary tilt enabling joint.

80. The aircraft of claim 76 wherein
the primary lifting mechanism and the secondary lifting
mechanism are connected to the main body of the aircraft
such that the primary lifting mechanism is further forward
with respect to the main body of the aircraft than is the
position of the secondary lifting mechanism with respect
to the main body of the aircraft.

20 81. The aircraft of claim 77 wherein
the primary lifting mechanism and the secondary lifting
mechanism are connected to the main body of the aircraft
such that the primary lifting mechanism is further forward

with respect to the main body of the aircraft than is the

position of the secondary lifting mechanism with respect to the main body of the aircraft.

84

82. The aircraft of claim 78 wherein
the primary lifting mechanism and the secondary lifting
mechanism are connected to the main body of the aircraft
such that the primary lifting mechanism is further forward
with respect to the main body of the aircraft than is the
position of the secondary lifting mechanism with respect to
the main body of the aircraft.

58

83. The aircraft of claim 79 wherein
the primary lifting mechanism and the secondary lifting
mechanism are connected to the main body of the aircraft
such that the primary lifting mechanism is further forward
with respect to the main body of the aircraft than is the
position of the secondary lifting mechanism with respect to
the main body of the aircraft.

86

15

84. The aircraft of claim 41 wherein
the primary lifting mechanism and the secondary lifting
mechanism are connected to the main body of the aircraft
such that the primary lifting mechanism is further forward
with respect to the main body of the aircraft than is the
position of the secondary lifting mechanism with respect
to the main body of the aircraft.

87

85. The aircraft of claim 45 wherein

the primary lifting mechanism and the secondary lifting mechanism are connected to the main body of the aircraft such that the primary lifting mechanism is further forward with respect to the main body of the aircraft than is the position of the secondary lifting mechanism with respect to the main body of the\aircraft.

10

5

85. The aircraft of any one of claims 1 to 29 wherein the primary lifting medhanism and the secondary lifting mechanism are connected to the main body of the aircraft such that the primary litting mechanism is further forward with respect to the main body of the aircraft than is the position of the secondary hifting mechanism with respect to the main body of the aircraft